International Conference on
PUBLIC HEALTH, PHYSICAL
HEALTH AND HEALTHCARE
MANAGEMENT

ICPHPHHM - 2025

International Conference on

Public Health, Physical Health and Healthcare Management

13th-14th March, 2025 | Bangkok, Thailand

Organized by

IFERP Life Sciences
Explore Your Research Journey...

SHINAWATRA UNIVERSITY
FOSTERING INNOVATION

IFERP Life Sciences - Formerly BioLeagues in association with Shinawatra University, Thailand

International Conference on Public Health, Physical Health and
Healthcare Management (ICPHPHHM-25)

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Table of Contents

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MANAGEMENT

Theme :

Transforming Public Health: Innovation, Equity, and Global Collaboration for Sustainable Health Systems

Preface

We cordially invite you to attend the International Conference on Public Health, Physical Health and Healthcare Management (ICPHPHHM-2025) on 13th–14th March 2025. The main objective of ICPHPHHM-2025 is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Public Health, Physical Health and Healthcare Management. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in there view process, and to the authors for contributing their research result to the conference.

Since January 2025, the Organizing Committees have received more than 80 manuscript papers, and the papers cover all the aspects in Sustainable Engineering and Education . Finally, after review, about 20+ papers were included to the proceedings of ICPHPHHM-2025.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ICPHPHHM-2025. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

About ICPHPHHM

Welcome to International Conference on Public Health, Physical Health, and Healthcare Management, taking place on March 13th & 14th, 2025, in the vibrant city of Bangkok, Thailand. This event gathers experts, researchers, practitioners, and policymakers to discuss critical issues and advancements in public health and healthcare management.

Theme : Transforming Public Health: Innovation, Equity, and Global Collaboration for Sustainable Health Systems.

The conference serves as a dynamic platform for collaborative discussions and knowledge exchange, focusing on innovative strategies to enhance physical health and improve healthcare systems. Attendees will have the opportunity to engage in thought-provoking sessions, workshops, and keynote presentations that address the latest research, emerging trends, and best practices in the field.

Join us in this enriching experience as we collectively strive to advance health-related disciplines, promote well-being, and foster meaningful connections within the global health community. Together, we can drive impactful change in public health and healthcare management for a healthier future.

Scope of the Conference:

International Conference on Public Health, Physical Health, and Healthcare Management invites discussions and submissions on a wide range of topics, including but not limited to:

- **Innovative Public Health Practices :** Explore new strategies and approaches that enhance public health outcomes and healthcare delivery.
- **Health Equity :** Examine research addressing disparities in health access and outcomes across different populations and communities.
- **Global Health Collaboration :** Discuss the importance of international partnerships and collaborative frameworks in addressing global health challenges.
- **Technology in Healthcare :** Investigate the role of emerging technologies in improving public health surveillance, data management, and patient care.
- **Sustainable Health Systems :** Analyze practices and policies that promote sustainability in healthcare, ensuring long-term health benefits for communities.
- **Education and Health Literacy :** Explore the intersection of education and public health, focusing on initiatives that improve health literacy and empower individuals.

Objective of ICPHPHHM:

The overarching objective of this conference is to advance the dialogue on public health practices, challenges, and innovations on a global scale. We aim to create a collaborative platform that facilitates meaningful exchanges among diverse stakeholders in the healthcare sector. Through our collective efforts, we seek to:

- **Promote Knowledge Exchange :** Facilitate the sharing of insights, research findings, and best practices among healthcare professionals, researchers, and policymakers to enhance public health strategies worldwide.
- **Encourage Collaborative Research :** Inspire research initiatives that focus on comparative studies of healthcare systems, policies, and outcomes, identifying effective solutions to common challenges faced by diverse communities.
- **Explore Innovations in Healthcare :** Highlight cutting-edge technologies, methodologies, and practices that have the potential to revolutionize public health and improve healthcare delivery.
- **Build a Global Network :** Create opportunities for participants to connect and collaborate, fostering partnerships that can drive sustainable health improvements across cultural and national boundaries

About IFERP Life Sciences

IFERP Life Science is a globally recognized professional association meant for research, innovation and development in the field of life sciences and medical sciences . It serves to propel and fuel all innovative works of research with immense potential in the fields of Healthcare, Life Sciences, Pharmaceutical Sciences, Medical Sciences, Food & Nutrition, Environmental Science, Oncology, Cardiology, Nursing, Microbiology, Physiotherapy, Dentistry and many more. IFERP Life Science has been directly responsible for a significant amount of the revolutionary developments that have taken place in these fields over the past few decades.

About BioLEAGUES:

Under the Technoarete Group, the non-profit professional organisation known as BioLEAGUES functions. It is a globally recognized professional organisation in the field of medicine, life sciences, and healthcare that unites, supports, promotes and helps the scientific community in a variety of ways, igniting and advancing all cutting-edge works of research with tremendous potential. In this capacity, BioLEAGUES has played a major role in many of the ground-breaking advancements that have occurred in these domains over the past few decades. In addition to pushing the limits of innovation and discovery across various disciples, BioLEAGUES has established programs to support development so that the rate of advancement doesn't just increase continuously but also stays steady over time.

A genuinely global organisation in every sense of the word, BioLEAGUES was founded in 2000 and has its headquarters in Chennai, India. With more than 8000 members, comprising executives from businesses, academia, policy makers, and representatives from other sectors. and 12,000 student members, BioLEAGUES has committed itself to fostering innovation, growth, and progress in all parts of medicine, life sciences, healthcare, and associated fields.

Objective of IFERP Life Sciences - Formerly BioLeagues:

The major objective of IFERP Life Sciences - Formerly BioLeagues is to create a better tomorrow by organizing conferences and scientific events and to create a community for sharing and gaining knowledge in the field of Medical Science, Pharmaceutical Science, Life Science, BioLogical Science & Health Care

- To provide a world class platform to researchers, academicians and professionals to share their research findings by organizing International Conferences, Webinars.
- To encourage researchers to identify significant research issues in identified areas, in the field of Medical Science, Pharmaceutical Science, Life Science, BioLogical Science & Health Care.
- To form partnerships with Universities/Institutions to identify researchers and innovators at grassroot level and to bring them to a global platform.
- To help dissemination of their work through publications in a journal or in the form of conference proceedings or books.
- To help them in getting feedback on their research work for improving the same and making them more relevant and meaningful, through collective efforts.
- To use the research output of the conference in the curriculum for the benefits of the students.
- To create a network which will help grow a better tomorrow with the help of advanced technology and achievable sustainable development.

Director's Message, IFERP

Mr. A. Siddth Kumar Chhajer
Managing Director & Founder, IFERP
Technoarete Group, India

On behalf of IFERP & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers.

The goal of the ICPHPHHM 2025 is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries in various fields of academics. This conference creates solutions in different ways and to share innovative ideas in the field of Public Health, Physical Health, and Healthcare Management. ICPHPHHM 2025 provides a world class stage to the Researchers, Professionals, Scientists, Academicians, and students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

ICPHPHHM 2025 will explore the new horizons of innovations from distinguished researchers, scientists and eminent authors in academia and industry working for the advancements in Generic and Pedagogical Research Evolutions in Public Health, Physical Health, and Healthcare Management from all over the world. ICPHPHHM 2025 hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in various fields of Academics.

CEO's Message, IFERP

Mr. Rudra Bhanu Satpathy
Founder & Chief Executive Officer, IFERP
Technoarete Group, India

IFERP is hosting the International Conference on Public Health, Physical Health, and Healthcare Management (ICPHPHHM-2025) this year in month of March. The main objective of ICPHPHHM-2025 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

Keynote Speaker

Dr. Afsana Habib Sheuly
Head of Nutrition and Health,
Helen Keller International, Bangladesh

Dr. Afsana Habib Sheuly is a Medical Graduate from Mymensingh Medical College. She has completed her M. Phil (Epidemiology & Biostatistics) from Dhaka University in collaboration with University of Oslo, Norway and MPH (Health and Hospital Management) from North South University, Bangladesh. She had over 15 years of experience in the Public Health and Nutrition. She joined Helen Keller Intl. Bangladesh on 2018 as Project Manager and now working as Head of Nutrition and Health. Previously she worked as Epidemiologist at National Institute of Ophthalmology and Hospital. She had a vast experience to work with Nutrition, Eye health, Diabetic patients and their complication, Neglected Tropical Diseases (NTDs) and maternal and child health. She had around twenty national and international publications. She is external reviewer for Journal of Institute of Child and Mother Health and Journal of National Institute of Ophthalmology. Her expertise in epidemiology, NTDs, community nutrition, community ophthalmology, sexual and reproductive health, adolescent health, etc.

Keynote Speaker

Dr. Harit Agroia
Adjunct Faculty,
College of Health and Human Sciences, USA

Dr. Harit Agroia is an adjunct professor and senior public health program manager with more than 15 years of experience in the higher education, government, and non-profit industries. Her higher education experience includes teaching epidemiology, program evaluation, and applied data analysis courses to students at both the undergraduate and graduate levels. Her research and scientific interests include social and infectious disease epidemiology, food and nutrition sciences, and substance use and addiction medicine; she has been involved in and directed several research studies in related topic areas. Educational training and experience includes achieving her Doctorate and Masters in Public Health, receiving advanced certification in epidemiology for public health practice specialization, and serving as a Master Certified Health Education Specialist.

Keynote Speaker

Dr. Wan Rosli Wan Ishak
Dean & Professor,
Universiti Sains Malaysia, Health Campus, Malaysia

Wan Rosli Wan Ishak is a professor of Nutrition Program at the School of Health Sciences (SHS), Universiti Sains Malaysia (USM), Health Campus, Kota Bharu, Kelantan, Malaysia. Currently, he is a Dean of SHS of USM. His research theme emphasizes more on the utilization of natural agricultural by-products into popularly consumed processed foods. Various low glycemic index (GI) based on these agricultural by- products have been developed. He was selected among Top 10 Innovators for SYMBIOSIS project funded by Malaysian Technology Development of Malaysia (MTDC) to facilitate the commercialization of functional and health cookies from oyster mushroom (Nutri-Mush® Cookies). He has published more than 150 articles in various indexed journals.

Keynote Speaker

Ts. Dr. Mohd Adzim Khalili bin Rohin
Director,
Universiti Sultan Zainal Abidin (UniSZA), Malaysia

Obtained a Bachelor's Degree and Master's Degree from Universiti Putra Malaysia (UPM) in Food Study (2002) and Community Nutrition (2006). He graduated from PhD in Functional Food and Nutraceuticals (2014) from Universiti Sultan Zainal Abidin (UniSZA). Associate Professor at Department of Nutrition & Dietetics, Faculty of Health Sciences, Universiti Sultan Zainal Abidin (UniSZA). Area of interest include Functional Food, Food Chemistry, Nutraceuticals (Including Manufacturing of Nutraceuticals Products), Food Safety, Nutrition Related Chronic Diseases, Halal Products, Hazard Analysis and Risk Assessment.

Keynote Speaker

Dr. Leila S. Africa

Professor & Head of Nutrition Programs and Policies Division Former Director,
University of the Philippines, Los Baños, Philippines

Dr. Leila Sacdalan Africa is a Registered Nutritionist-Dietitian, a Professor, and former Director of the Institute of Human Nutrition and Food, College of Human Ecology, University of the Philippines Los Baños. She completed the Doctorate of Nutrition in 2015 at the Southeast Asian Ministry of Education Organization Regional Center on Food and Nutrition (SEAMEO-RECFON) and the Study Program on Nutrition, Faculty of Medicine, Universitas Indonesia. She has taught undergraduate and graduate public health nutrition and related courses since 2002. Her research and extension works were in line with establishing a food composition database; revision of Operation Timbang Plus guidelines; development and validation of research instruments; surveys on food and nutrition security; multi-level analysis; project cost analysis; BIDANI impact evaluation; anemia control and prevention; nutrition program management; monitoring and evaluation of nutrition interventions; manual development; and infant and young child feeding counseling. She served as program leader, project leader, study leader, subject matter specialist, or assistant study leader on these projects. She also served as an organizer, team leader, or resource person in numerous training and workshops, particularly those related to public health and community nutrition. She is presently the Quality Assurance Officer of the College of Human Ecology, UP Los Baños. She is married to Romeo Africa III and has two daughters, Franxezka and Zofiya.

Keynote Speaker

Prof. Dr. Dragan Randjelovic
Full Professor, Faculty for Diplomacy and Security,
University Union Nikola Tesla, Beograd, Serbia

Prof. Dr. Dragan Randjelovic full professor at University Union Nikola Tesla, Faculty for diplomacy and security Born in 1953 in Nis. He graduated from the Faculty of Electronics in Niš in 1977, before the deadline and the first of his generation, where he also received his master's degree in 1984. He defended his doctoral dissertation at the Faculty of Science and Mathematics of the University of Pristina in 1999. In his more than 45 years of research work, starting in 1977, he worked as a high school teacher. He worked at the Institute of Electronic Industry in Niš from 1980 to 1991, first as a development engineer and then as a manager of one of the five development and research laboratories, and then in the period from 1991 to 1997. he worked as a director in the factories of Elektronska industrija Niš, Ei Komerc - Consulting, Ei Računari and Ei Expokom. He was appointed from 1980 at the Mathematics Institute of the Serbian Academy of Sciences, as a researcher-intern, and in 1985 and 1990 at the Institute of Electronic Industry in Niš. title of research associate. Since 1997, he has been working in the higher education of the Republic of Serbia, first at the Faculty of Agriculture of the University of Pristina in the subject of Informatics and Computer Science as an assistant, since 2000 as an assistant professor in that subject and in Mathematics, since 2004 as an associate professor at that faculty and at the Criminalistics - the police academy in Belgrade since 2008, where in January 2014 he was elected to the position of full professor for the narrower scientific field of Information Technology, and in 2020 he was elected to the same position and in the same field at the Faculty of Diplomacy and Security of the Union Nikola Tesla University, Belgrade.

He was at the Criminal Police Academy for two terms from 2013-2019. held the position of head of the Department of Informatics, where he was also a member of the Senate at the University of Criminalistics and Police in Belgrade, and since 2023 he has been the head of the Department of Software Engineering and IT at Gaculty of diplomacy and security in Belgrade . He also taught courses from UNO information technology at undergraduate and master's studies at the University of Belgrade - Faculty of Engineering Bor 2003-2004 and undergraduate studies at the University of Novi Sad - Faculty of Physical Education 2004-2005 as well as lectures at doctoral studies at the University of Prishtina - Faculty of Agriculture in Lesko 2009-2022. After being elected to the position of full professor at UNO Information Technology in 2022 at Union University - Nikola Tesla Belgrade, he now works at the Faculty of Diplomacy and Security in Belgrade, where he teaches undergraduate and master studies.

Prof. Ranđelović has over 300 references, 40 of which are registered on the Web of Science as well as about 150 reviewers. He is with over 400 citations on Google Scholar, of which h-index and i-index over 10. Prof. Ranđelović has published more than 15 university textbooks. Prof. Ranđelović was a mentor to more than 50 master's and specialist candidates and several doctoral candidates. He was a researcher on the projects of the Ministry responsible for science of the Republic of Serbia in all cycles starting from 1980 and participating as a research trainee at the Mathematics Institute Belgrade until the last cycle from 2011 - 2020 as a participant in two projects and manager of one of two sub-projects on one of them "New information technologies for analytical decision-making based on the organization of experiments and observation and their application in biological, economic and sociological systems".

He participated in and managed projects that since 2008 the Criminalistics and Police Academy worked for the needs of the Ministry of Internal Affairs of Serbia in all cycles 2008-2018. He is a member of the Editorial Board of several international journals

1. International Journal of Recent and Futuristic Information Technology 2017.
2. International Journal of Latest Trends in Engineering and Technology 2017.
3. Computer System Networking and Telecommunications 2018.
4. Current Electronics and Telecommunications 2018.
5. Artificial Intelligence Advances 2019.
6. Mathematics and Computer Science 2019. as well as a domestic magazine
7. Diplomacy and Security 2020. He was co-editor two international books and author of several nationsl monograpies in Serbia. In 2024. he is guest editor in special issue of Symmetry journal.

Keynote Speaker

Dr. Saurabh Katiyar
R & D Director, CPG R & D Centre & Head of Technology,
Innovations and Emerging Tech, Charoen Pokphand Group, Thailand

Dr. Saurabh Katiyar comes with nearly 29 years of experience and currently serving as R&D Director and Head of Technology [Innovation and Emerging tech] with focus on AI-ML, Digital, Robotics, Communications and Sensing Tech at Chief Technology and R&D Office with Large Global Conglomerate based in Bangkok Thailand with industry focus on Food, Agriculture, Mobility, Digital, Supply chain, Telecom, Financial Services, Sustainability, Retail and Healthcare. Dr. Saurabh's educational background as Dual master's in science and technology, Management Fellow, Medical Bioinformatics expert from NUS National University of Singapore's Yong Loo Lin School of Medicine, and Academic research in many fields – PhD in AI; Biosensing Nanotech-Biotech engineering in Plant Biology; Food Science Applications for Telemedicine in Personalized Food and Nutrition and Quantum Mechanics under Stanford University School of Engineering.

Keynote Speaker

Dr. Alka Gupta
Founder & Managing Director,
AGATH Healthcare, Thailand

Dr. Alka Gupta is a renowned Lifestyle Disease Expert, Motivational Health Coach, and Spiritual- Cosmic Healer, with over 20 years of international experience. As the Founder-Director of AGATH Healthcare & Wellness, she has pioneered integrative healing through Ayurveda, Yoga, Naturopathy, and Panchkarma, treating thousands of patients worldwide.

She has conducted 5,000+ health workshops, talks, and retreats and specializes in Neurological Health Issues, Nav Maas Chikitsa & Garbh Sanskar (Prenatal Care & Wellness), Mental Health & Holistic Healing, Child Development through Ayurveda & Yoga

A gold medalist and recipient of multiple international awards, Dr. Gupta has been featured in leading media outlets, including Doordarshan, ZEE News, Hindustan Times, ThaiPR.NET, and more.

She is also a recognized expert in Integrative & Complementary Medicine at the WHO (World Health Organization).

Key Achievements 50+Awards including:

- International Yogini Award (2023)
- Bharat Gaurav Samman for Women
- Empowerment (2022)

- Pravasi Rattan Award (2017)
- Health Leadership & CSR Awards

100+ Speaking Engagements & Global Presence, including:

- Keynote Speaker at Rangsit University & Asian Institute of Technology
- Panelist at World Economic Forum, Global Indian Conclave
- Advisor to International Health & Yoga Organizations
- Official Delegate for ASEAN & ICCR Cultural Education Conclaves

Plenary Session Speaker

Dr. Milan Ranđelović
Managing Director,
Science and Technology Park Nis, Serbia

Milan Ranđelović, PhD, born in 1980 in Niš, Serbia, is a distinguished expert in economic development and innovation ecosystems. A graduate of the University of Priština, he earned his PhD in Economic Sciences from the University of Niš in 2017. As Director of the Science and Technology Park Niš, he has led over 20 innovation-focused projects, advancing Serbia's digital economy and innovation ecosystem. Dr. Ranđelović has published over 40 scientific papers and co-authored a textbook. He actively promotes innovative entrepreneurship, has organized over 200 events, and collaborates internationally to establish innovation incubators and startup centers across Serbia. Fluent in English and German, he is also a promoter of socially responsible business practices.

Plenary Session Speaker

Seyed Fathollah Mir Mohammadmakki
Founder and Chairman,
Import and Export Medicine Company & Investment Company, Iran

Dr. Seyed Fathollah Makki earned his Master's degree in Industrial Engineering from Amirkabir University of Technology in 1993. He subsequently completed his MPh. in Industrial Engineering with a specialization in Systems and Productivity at the same university in 1999. Dr. Makki graduated as the top-ranking student in both his Master's and MPh. programs, achieving exceptional distinction in his academic career. His professional journey began in 1990 when he joined the academic faculty of Amirkabir University as a lecturer. Simultaneously, in 1987, he embarked on an industrial career, assuming the roles of Managing Director ,and Chairman of the Board in multiple companies. Under his strategic leadership, these organizations achieved remarkable growth and operational excellence. Notably, Dr. Makki played a pivotal role in restructuring and revitalizing distressed companies and factories, establishing himself as a leading figure in industrial innovation. In 2003, Dr. Makki founded the Maktaf brand, a pioneering enterprise specializing in supply chain management, pharmaceutical distribution, and importation. This venture solidified his reputation as a visionary entrepreneur and a key contributor to economic and societal progress. Dr. Makki is also a prolific author, with numerous publications and research articles in the pharmaceutical and food industries. As a distinguished thought leader in both academia and industry, he has made significant contributions to enhancing the country's pharmaceutical systems through his expertise and strategic consultations. His active participation in national and international seminars, often as an honorary speaker, underscores his standing as a highly regarded figure in his field. Dr. Makki's exceptional blend of academic excellence and industrial leadership positions him as a prominent and influential professional, making invaluable contributions to both education and industry.

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Abstract's Index

ABSTRACTS

Evaluation of Wound-Healing Potential of *Fittonia albivenis* Leaf Extract Using Incision Wound-Induced Mice

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Abstract

The body has a self-healing capacity, but certain factors may slow or prevent this process. Open wounds and surface injuries were among the most common types of injuries. *Fittonia albivenis* leaves, commonly found in Diaz Porac in the Aeta community, are known to be medicinal but have not been scientifically investigated for their capacity to heal wounds. The study focuses on *Fittonia albivenis*' effect on abrasions or superficial injuries.

Wounds were induced in mice and subsequently treated with the extract. Five distinct concentrations of the ointment containing the extract, which are minimal (5%), moderate (10%), and high doses (15%), were applied, plus the positive (Mupirocin) and negative controls. Daily administration of the treatment will continued for up to fourteen days post-wound induction. The evaluation included an assessment of wound closure and an examination of the features of the healed tissue. The research identified the plant's phytochemical properties and its particular biological effects to ascertain if it possesses the ability to promote wound healing.

The phytochemical analysis revealed sterol, triterpenes, flavonoids, alkaloids, saponins, glycosides, and tannins in the extract, which are known for their antibacterial, anti-inflammatory, and antioxidant properties. With that result, the 100% leaf extract exhibited mild reactivity (2) and partial inhibitory activity (++) against *Staphylococcus aureus*. The 5% ointment concentration showed the highest percentage of wound closure. Group 2 (-C) and Group 5 (15% ointment concentration) showed the lowest amount of granulation tissue, indicating a more mature state. Group 1 (Mupirocin) exhibited the least inflammatory infiltrate; all groups showed the same collagen orientation; Group 1 (Mupirocin) showed the best collagen pattern formation; and Group 4 (10% ointment concentration) showed the highest amount of mature collagen. In addition, Group 5 (15% ointment concentration) demonstrated the greatest therapeutic efficacy compared to other prepared ointments.

This underscores the plant's potential for further exploration in developing cost-effective and accessible remedies for wound care, especially in communities with limited access to pharmaceutical products, thus contributing to the promotion of good health and well-being by utilizing locally available medicinal plants.

Keywords

Phytochemical properties of *Fittonia albivenis*, incision wound-induced mice, plant ointment formulation.

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Evaluation of Wound-Healing Potential of *Fittonia albivenis* Leaf Extract Using Incision Wound-Induced Mice

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Abstract

The body has a self-healing capacity, but certain factors may slow or prevent this process. Open wounds and surface injuries were among the most common types of injuries. *Fittonia albivenis* leaves, commonly found in Diaz Porac in the Aeta community, are known to be medicinal but have not been scientifically investigated for their capacity to heal wounds. The study focuses on *Fittonia albivenis*' effect on abrasions or superficial injuries.

Wounds were induced in mice and subsequently treated with the extract. Five distinct concentrations of the ointment containing the extract, which are minimal (5%), moderate (10%), and high doses (15%), were applied, plus the positive (Mupirocin) and negative controls. Daily administration of the treatment will continued for up to fourteen days post-wound induction. The evaluation included an assessment of wound closure and an examination of the features of the healed tissue. The research identified the plant's phytochemical properties and its particular biological effects to ascertain if it possesses the ability to promote wound healing.

The phytochemical analysis revealed sterol, triterpenes, flavonoids, alkaloids, saponins, glycosides, and tannins in the extract, which are known for their antibacterial, anti-inflammatory, and antioxidant properties. With that result, the 100% leaf extract exhibited mild reactivity (2) and partial inhibitory activity (++) against *Staphylococcus aureus*. The 5% ointment concentration showed the highest percentage of wound closure. Group 2 (-C) and Group 5 (15% ointment concentration) showed the lowest amount of granulation tissue, indicating a more mature state. Group 1 (Mupirocin) exhibited the least inflammatory infiltrate; all groups showed the same collagen orientation; Group 1 (Mupirocin) showed the best collagen pattern formation; and Group 4 (10% ointment concentration) showed the highest amount of mature collagen. In addition, Group 5 (15% ointment concentration) demonstrated the greatest therapeutic efficacy compared to other prepared ointments.

This underscores the plant's potential for further exploration in developing cost-effective and accessible remedies for wound care, especially in communities with limited access to pharmaceutical products, thus contributing to the promotion of good health and well-being by utilizing locally available medicinal plants.

Keywords

Phytochemical properties of *Fittonia albivenis,* incision wound-induced mice, plant ointment formulation.

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Computational Elucidation of β-endo-Acetylglucosaminidase (LytB) Inhibition by Kaempferol, Apigenin, and Quercetin in *Streptococcus pneumoniae*: Anti-Pneumonia Mechanism

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Abstract

Purpose: LytB, β-endo-Acetylglucosaminidase is a cell wall hydrolase of *Streptococcus pneumoniae* which play key role during daughter cell separation, biofilm formation, initial colonization, invasion to sterile sites, and evasion from immune system of human host. This study has targeted LytB with flavonoids such as apigenin, quercetin and kaempferol to examine their inhibitory action against Streptococcus pneumoniae.

Methods: This study involves *in silico* methods such as molecular docking to predict the binding score between LytB and flavonoids (apigenin, kaempferol, and quercetin), ADMET (absorption, distribution, metabolism, excretion, and toxicity) analysis using swissADME, DruLito and Protox II, PLIP (protein-ligand interaction profiler) for three-dimensional interaction analysis, and molecular dynamic simulation run using GROMACS for complexes of LytB and flavonoids to study the interaction at atomic level in terms of RMSD, RMSF, radius of gyration and hydrogen bond formation throughout 100nanosecond MDS run.

Results: The docking scores for apigenin, quercetin and kaempferol against LytB performed using USCF Chimera were -8.6, -8.5, and -8.5, respectively. The docking score of the natural substrate of the LytB, which is a tetra-saccharide NAG-NAM-NAG-NAM was -6.0. For apigenin, quercetin and kaempferol the logp and logS ranged ideally between 0 to 2 and 0 to -4.0, respectively. These flavonoids are impermeable to blood-brain barrier and follows the Lipinski's rule of five. Flavonoids are inactive for cytotoxicity, immunotoxicity, hepatotoxicity, mutagenicity, and carcinogenicity according to Protox II analysis. Additionally, the interactome study exhibited functional association between different targets (LytC, LytA, LytB and pneumolysin) of *Streptococcus pneumoniae* using STRING database with annotation score of 0.891 for LytB-pneumolysin, 0.483 for LytB-LytC and 0.600 for LytB-LytA, respectively. PLIP analysis displayed the number of hydrogen and hydrophobic interactions, whereas comparative analysis between tetra-saccharide (NAG-NAM-NAG-NAM)-LytB and kaempferol-LytB have displayed similar interaction in terms of RMSD, RMSF, hydrogen bond formation and radius of gyration analysed using XmGRACE. Since, tetra-saccharide (NAG-NAM-NAG-NAM) is a natural substrate of LytB, it is used as a control in the study.

Conclusion: This *in-silico* study elucidates the anti-pneumonia properties of kaempferol, apigenin, quercetin against LytB (structurally and functionally conserved in all serotypes) of multi-drug-resistant *Streptococcus pneumoniae*.

Keywords

Streptococcus pneumoniae, β-endo-Acetylglucosaminidase, Apigenin, Quercetin Kaempferol, Molecular dynamic simulation, Interactome study and GROMACS.

Ensemble Based Methodology for Determining the Importance of Individual Criteria in Some Multi-Criteria Process

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Abstract

Authors of this paper made an attempt to propose one novel optimization model which determines the influence of individual criteria in one multi-criteria process and at the same time enables prediction in the future. For this purpose, the authors used case-study for determining the impact of non-financial factors on successful inpatient treatment of cardiovascular patients as the largest population of patients, based on the data acquired in two regions of southern Republic of Serbia. Data mining filter methodology from the group of feature selection methods was used for the purpose of initial classification the importance of individual factors with the aim to create a model of prediction using two different filters, in that way practically two different methods. Authors applied aggregation technique of one kind of stacking ensemble machine learning which enabled construction of one optimization procedure using conventional statistical method of logistic regression, as a third method, for fine calibration in the form of necessary number of comparisons, for selection of most important factors and thereby they try generate a suitable prediction model. Obtained results on conducted research showed that proposed model gave the better results than the each of individual methods included in it, whereby it confirmed the research hypothesis that it is possible to determine the goodness of the existing healthcare organization in the considered regions on the basis of that.

Keywords

Machine learning, Non-financial factors on successful inpatient treatment, Ensemble methods.

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Analysing the Burden of Healthcare Professionals in Home Care

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Abstract

Advancements in technologies and changes in the health care system have resulted in shortened hospital stays, moving the focus of care from hospitals to homes. These services include nursing care, professional caregiving to chronically ill and patients of which substantial numbers are bedridden, immobile or suffer from chronic illnesses like dementia, cancer, heart, lungs, liver, kidney, etc. The burden experienced by family caregivers and paid caregivers is the most important caregiver-related variable in care at home in the care of a chronically-ill person. The extent of subjective burden (which is borne by the caregivers) has a significant impact on the emotional and physical well-being of the family caregivers and the paid caregivers (nurses and general duty assistants), and even influences the mortality of spouse caregivers. In the present study, the researcher interviewed 40 nursing staff, 40 general duty assistants, and 40 family caregivers to analyze the burden they bear instead of their duties in caring for sick patients. The Burden Scale for Family Caregivers (BSFC) (Grasel, 1995) is a 28-item questionnaire that was developed to determine the burden felt by caregivers working for the patients.

Overall, it was found that 76.9 % of general duty assistants, 59.5 % of family caregivers and 40 % of nurses, BSFC scores ranged between 0 to 41, which means 50% of the caregivers have an average extent of physical symptoms. However, 52.5 % of the nursing staff, 20.5 % of the general duty assistants, and 12.5 % of the family caregivers' BSFC score range from 42 to 55, and 74% of those caregivers have an above-average extent of physical symptoms. Henceforth, for 7.5% of the nurses, 28 % of the family caregivers, and 2.6 % of the home aides, BSFC score ranges from 56 to 84, thus 90% of those caregivers have an above-average extent of physical symptoms. The results analyzed were found to be highly significant showing a strong association of home health care workers who deliver the majority of home care services and shoulder the bulk of burden and responsibilities at the workplace. Burden scale was also further analyzed for age, gender, marital status, religion, current residence, and social- economic status of the respondents. The total score can range from 0-84, with a score of above 42 or more indicative of significant psychosomatic symptoms (fatigue, insomnia, aches and pains, indigestion, hypertension, headaches, and migraine). Because of the severity of the disease, a caregiver is required to do much more than just look after the patient. To name a few, getting the patient in and out of bed, feeding them, dressing them, getting them to and from the toilet, bathing them etc., are some of the many duties that a caregiver performs, along with providing necessary medical attention. This leads to consequences for the caregiver in the form of physical and psychological distress. The stress incurred is so powerful that caregivers of Alzheimer's patients have an association with poor immunity, cardiovascular issues such as higher blood pressures and decreased wound healing mechanisms, and sleep patterns overall reflecting poorly on their quality of life, well-being, and health.

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The Importance of Upholding Ethics in Food Safety Improvement

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Abstract

Ethics plays a crucial role in enhancing food, health, and safety in today's society. As awareness of the impact of food on health grows, the issue of food safety has garnered more attention than ever before. Ethical principles in this context involve ensuring that all members of society have access to healthy and safe food. This priority must be maintained.

Transparency is a fundamental pillar of food safety. Consumers need to be informed about the ingredients, origin, and production methods of the food they consume, enabling them to make informed choices. This transparency also builds trust between manufacturers and consumers by providing accurate information and preventing food fraud.

Effective supervisory systems must be in place to enforce health standards and maintain food quality and safety. Monitoring various stages of food production, packaging, and distribution helps identify and mitigate health risks, ensuring that consumers can trust the safety of the food available on the market.

Consumer rights in the domain of food safety are equally important. Individuals should have the right to make informed choices and receive accurate information to protect themselves from contaminated or unhealthy foods. Compliance with laws and regulations is essential for producers to uphold these rights. Furthermore, educating consumers about the risks associated with unhealthy foods is vital.

Educational programs can empower individuals to make better purchasing and consumption decisions while increasing awareness of safe food characteristics. Supporting local and organic produce can significantly enhance food safety. Local food is often fresher and free from harmful chemicals, making it a healthier option for consumers. Additionally, buying locally supports local economies and reduces the environmental impact of food production, fostering a sense of community and responsibility.

Yet, ethical food safety is intricately linked to public health. A heightened focus on food quality and safety can help reduce illnesses associated with the consumption of unhealthy and contaminated food. Establishing a safe and ethical food system requires cooperation among producers, distributors, and consumers. This collaboration can cultivate a culture centered on food safety and health, leading to a healthier and more sustainable future for generations to come.

Keywords

Food Safety. Food Ethics, Educational Programs, Public Health, Food Quality.

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Protective Effects of *Diplazium esculentum* (Lingua) on Oxidative Stress, Inflammatory Markers and Liver Histology in High-Cholesterol-Fed Rats

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Abstract

The study examines the inflammatory cytokines and liver histoarchitecture of high-cholesterol-fed rats after being exposed to *Diplazium esculentum* (Lingua). Lingua, a lesser-explained pteridophyte that is rich in dietary fiber and phytochemicals, was chosen for its potential to suppress hypercholesterolemia-induced hepatic injury. Male Wistar rats were divided and fed diets supplemented with 7.5% (LD) and 15% (HD) Lingua along with HCD. Important analyses involved the quantification of dietary fiber, phytochemical profiling, ELISA for pro-inflammatory cytokines such as IL-6, IL-1β, and TNF-α, immunohistochemistry for Nrf2 and NF-κB, and histopathological examinations of liver tissues. The results showed that Lingua possesses 8.27% dietary fiber, mainly in soluble form, and holds high phenolic and flavonoid contents. It reduced inflammatory markers such as IL-6, TNF-α, IL-1β, and the NF-κB activation. Nrf2 was induced and reduced the levels of oxidative stress. Histological analysis showed that both microvesicular and macrovesicular steatosis decreased within the LD group compared to the HCD group, indicating an increase in hepatic integrity. This research underlines the promising role of Lingua as a nutritional intervention for hypercholesterolemia and related chronic disorders, pointing out participation in the regulation of oxidative stress, inflammatory processes, and hepatic tissue structure.

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The Effectiveness of Porang and Sugar on Increasing Selenium Content in Fermented Egg Flour

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Abstract

The study investigates the effects of fermentation on the nutritional and mineral content of egg flour, focusing on selenium, energy, protein, fat, moisture, and ash content. A significant difference in selenium content was observed among the formulations (p-value 0.010), with F0p having the highest selenium level (51.36 ± 13.61 mcg), attributed to the addition of Fermipan yeast, which enhances selenium bioavailability when combined with sugar. The energy content showed a significant variation (p-value 0.004), with F1g recording the highest energy value (515.40 ± 0.42 kcal), indicating that 2% Fermipan can increase the caloric density of egg flour. Similarly, protein content differed significantly (p-value 0.04), with F1g exhibiting the highest protein content (45.12 ± 0.65 g), while fat content remained stable across all formulations. Moisture content was significantly different (p-value 0.000), with lower moisture levels in fermented samples, improving shelf stability. The ash content, indicative of mineral content, also showed significant differences (p-value 0.020), with F1g having the highest ash content (4.03 ± 0.34%) due to the release of bound minerals during fermentation. The study concludes that sugar as a substrate for microbial fermentation is more effective than pouring for selenium enrichment, likely due to sugar's ability to enhance microbial activity rapidly. The findings suggest that combining Fermipan yeast with sugar in the fermentation process can significantly enhance selenium content and improve the overall nutritional profile of egg flour. This method could provide a cost-effective way to address selenium deficiencies in regions where it is prevalent, with potential for industrial-scale applications.

Keywords

Porang, Selenium, Fermentation, Egg Flour, Food Enrichment, Sugar.

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Epidemics Triangle" of Noncommunicable Diseases: Case of Mongolia

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Abstract

Manufacturing, marketing and distributing epidemics of unhealthy commodities that leads to nutrition transition and unhealthy eating behaviors of the population resulted in obesity epidemics are main contributing factors for non-communicable disease pandemics. Global and national strategies for NCDs prevention and control are not targeted to these issues properly. We propose "Epidemics Triangle" of NVDs or "Fatal Triangle" of NCDs as the most root causes for NCDs and addressing to these issues globally and nationally could be starting point for revisiting to NCDs prevention and control policies and programs.

Aims of the study is to determine the trends of production and consumption of unhealthy commodities and rick factors for NCDs with comparative analysis of NCDs burden and mortality of Mongolia.

The study is a longitudinal study on production and consumption of unhealthy commodities and the risk factors for NCDs in Mongolia and a comparative study on non-communicable disease burden and mortality. The study consists of the following serial sub-studies: (i) Case country demographic, social economic and some health indicators; (ii) Study on production, imports and consumption of unhealthy commodities of Mongolia, 2008-2017; (iii) Time serial data analysis on risk factors dynamics for NCDs; and (iv) Comparative analysis of non-communicable disease burden and mortality of Mongolia comparing with some country's disease burden and mortality.

We were extracted and used data for the study from already existed survey results on Production and Imports of Unhealthy commodities Mongolia conducted by National Statistical Office and statistical open data base of Mongolia, results of STEPS survey of Mongolia, 2006, 2009,2013 and 2019, Global burden of Disease 2019 and

We found that since manufacturing, marketing and distributing epidemics was introduced to Mongolia in med 1990s, nutrition transition was happened in Mongolia and double and triple burden of diseases is evident when commercial determinants of health was dominated in the country. As result, epidemics of obesity is observed and accelerated, risk factors for NCDs have been increased and NCDs are becoming leading causes of mortality and main killer of the population.

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Establishing Baseline Health Demographic Data for Children Under 5 Years in Jiwaka Province "Papua New Guinea"

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Abstract

Introduction: Given the recent formation of the Jiwaka Provincial Health Authority, there is a need for comprehensive baseline data to inform health interventions and policies. This study aims to establish baseline health demographic data for children under 5 years in Jiwaka Province, Papua New Guinea.

Methods: A cross-sectional survey was conducted, collecting data on demographics, socio-economic status, health conditions, healthcare access, immunization and nutritional status of 371 children under 5 years. Anthropometric measures were used to assess nutritional status, and children health records were analysed to determine the prevalence of common health conditions. After obtaining informed consent, data were collected with the help of an interview by random sampling using predesigned and pre-tested semi-structured questionaries. Data entry was done using EpiInfo version 7.2, whilst data analysis was performed using both Microsoft Excel, and IBM SPSS version 22 software. Descriptive statistics was used to analyse the variables of interest. Z scores for weight-for-age (WAZ) and height-for-age (HAZ) were calculated.

Results: The sample population consisted 188 males and183 females with a mean age of 1.91 years (SD: 1.32) and age distribution of 70% attributed to children 3-4 years. Only 39% of children were delivered in health facilities. 93% of parents were legally married. Most parents (Fathers,77% & Mothers, 96%) were subsistence farmers. Common illnesses affecting children last 6 months are; diarrhea, simple cough, febrile illness & other respiratory illness. 25% had barriers to healthcare services. Generally, 33% were fully vaccinated. Coverage for BCG of 82% in under 1 and 79% overall, Penta3 39% for under 1 and 57% for measles at 6 months. Main water sources were from streams or springs and 88% households using pit latrines without a slab. Socio-economic factors, including household occupancy and parents' employment statuses, were assessed to understand their relationship to malnutrition and other health outcomes.

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Conclusion: The baseline data highlights good accessibility to healthcare facilities and areas for improvement in vaccination and nutrition. This study provides foundation for assessing the impact of health interventions over time and improving child health outcomes. Future data collection efforts will focus on refining data capture and analysis methods to ensure more accurate and timely measures.

Keywords

Baseline health demographic data, children under 5 years, immunization, malnutrition, under 5 common illness.

Navigating the Future of Radiologic Technology: Challenges and Benefits of AI Integration

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Abstract

The integration of Artificial Intelligence (AI) into radiologic technology represents a pivotal advancement in modern healthcare, combining technical innovation with operational and business efficiency. This dissertation explores the challenges and benefits of AI integration in radiologic technology within tertiary-level hospitals, wherein the study adopts a dual-lens approach to assess the clinical and economic implications of AI adoption, including its impact on diagnostic accuracy, workflow optimization, and financial sustainability.

Using a concurrent mixed-methods design, the study incorporates quantitative surveys and qualitative interviews with radiologic technologists to evaluate their preparedness, perspectives, and experiences with AI integration. While data collection and analysis are forthcoming, the research will employ statistical tools such as descriptive analysis and Pearson correlation, alongside thematic analysis, to identify key trends and insights. Existing literature indicates that AI can enhance diagnostic precision and reduce operational inefficiencies; however, barriers such as high implementation costs, data privacy concerns, and workforce adaptability remain significant challenges.

This dissertation aims to contribute actionable recommendations for the sustainable adoption of AI, balancing technological innovation with business feasibility and ethical considerations. By addressing these challenges, the research aspires to provide a roadmap for fostering AI-enabled healthcare environments that improve diagnostic services, support global healthcare advancements, and strengthen institutional readiness for future technological integration.

Keywords

Artificial Intelligence (AI), Radiologic Technology, Tertiary-Level Hospitals, Initial Investment Costs, Maintenance Costs, Data Privacy, Machine Learning (ML), Image Analysis, Operational Efficiency, Predictive Analytics, Clinical Decision Support Systems (CDSS), Ethical Considerations, Vendor Agreements, Purposive Sampling, Mixed-Methods Design, Radiomics, Image Segmentation, Workflow Optimization, Cybersecurity Risks, Bias in AI.

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Evaluation of Intergenerational Eating Awareness and Food Label Reading Attitudes

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Abstract

A generation consists of individuals born in the same period and exposed to similar social, economic, and cultural conditions. Shared experiences shape their values, attitudes, and behaviours, leading to generational differences that may influence dietary habits. Eating awareness refers to recognizing hunger and satiety cues and adjusting eating habits accordingly. Food labels are crucial for selecting healthy foods for balanced nutrition and specific dietary needs. This study evaluates intergenerational differences in eating awareness and food label reading attitudes. The study was conducted with Generation X (n=786), Y (n=933), and Z (n=1006) participants in Istanbul, Turkey. Anthropometric variables, meal-skipping behaviours, frequency of eating out, water consumption, and exercise habits were assessed via a demographic questionnaire. Eating awareness was measured using the Mindful Eating Questionnaire, while attitudes toward food label reading were evaluated with the Food Label Reading Attitude Scale. Statistical analyses were performed using SPSS 25.0, with nonparametric data and a significance level of $p<0.05$. Findings showed significant generational differences in anthropometric variables, eating awareness, food label reading, meal-skipping behaviours, eating-out habits, water consumption, and exercise engagement ($p<0.01$). Generation X had higher health risks from anthropometric variables and lower exercise rates than other generations ($p<0.01$). Anthropometric variables showed a negative and significant correlation with eating awareness across all generations, but only a negative and significant correlation with label reading in Generation X ($p<0.01$). Promoting eating awareness and food label reading in all generations, particularly in Generation X, may be a key strategy to improve public health.

Keywords

Generations, eating awareness, food label reading, public health.

Exploring Hepatitis C Rates among Drug Users and Factors Influencing Screening Uptake in a Border Region of India: A Mixed Method Study

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Abstract

Background: The prevalence of hepatitis C virus (HCV) in Arunachal Pradesh, a north-eastern Indian state is 7.89%, which is much higher than the national average of 1%. However, there are few studies on the prevalence of the disease among drug users in Arunachal Pradesh. The present study aims to investigate the barriers and facilitators to HCV screening and assess its prevalence in patients who inject drugs (PWID) in Arunachal Pradesh.

Methods: A mixed-method approach was used, consisting of (a) a hospital-based screening of HCV in a de-addiction clinic in Arunachal Pradesh, and (b) focus group discussions (FGDs) and in-depth interviews (IDIs) to identify the determinants of undergoing HCV screening. The data were analyzed using thematic content analysis.

Results: The average age of those who were screened for HCV infection was 27.25±6.11 years, with a male-to-female ratio of 3.5:1. The overall prevalence of HCV infection in drug users was 24.6% while in self-reported PWIDs it was as high as 35.2%. It was observed that most patients were not enthusiastic about undergoing HCV screening tests due to a lack of knowledge about the disease and misinformation, lack of perceived risk, fear of turning positive, stigma related to the disease, and financial reasons.

Conclusion: The results reveal an alarming HCV prevalence among drug users, with higher odds of positivity in PWIDs. However, there is a lack of health-seeking behavior and the existence of several barriers to the early detection of HCV.

Keywords

People who inject drugs (PWID), injection drug use (IDU), screening, substance abuse, preventive care, liver disease.

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Exploring Dietary Habits and Lifestyle Choices: An Assessment of Attitudes and Behaviours Among Freshman Nursing Students

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Abstract

Introduction: Dietary habits and lifestyle choices play a vital role in shaping overall health and well-being, particularly among health care professionals like Nursing students. The transition to college life often brings considerable challenges, such as shift in eating habits, physical activity and stress management which can negatively impact student's health. This study aims to explore the attitudes and behaviours on dietary habits and lifestyle choices of Freshman Nursing students.

Methods: A cross - sectional study was conducted among 112 Fresh I year Nursing Students, Tamil Nadu, India. A self - administered structured questionnaire used to collect data encompassing questions on socio-demographics, healthy eating habits, dietary sources and lifestyle modifications. Skipping breakfast, night eating habit, behavioural choices regarding sleeping, physical activities and smoking were collected as a predictor variable. Statistical tests were used to analyse the relationship between the variables.

Results: A total of 112 nursing students participated in the survey, with a mean age of 19.5 + 1.5 years. Among Freshman students 76% were females and 24% were males. More than half of the participants, 53 (57.6%) lived with their families, and 59 (52.5%) were hostellers. Regarding meal habits, 77.3% of the students recognized breakfast as the most important meal of the day. Night eating was reported by 32 students (35.4%) as a rare occurrence. In terms of physical activity, 55 students (57.1%) exercised "sometimes". A significant number, 88 students (89%) reported going to bed late, and 4.7% were smokers. Students who are overweight and sleep late hours are more likely to skip breakfast than their counterparts. (AOR = 1.152)95%CI.

Conclusion: This study highlights the dietary practices and lifestyle choices among freshman nursing students that finds a positive relation with unhealthy eating habits and lifestyle modifications necessary to impart at the level of primordial prevention of Chronic diseases and promoting healthy practices in the contemporary generation.

Keywords

Dietary habits, lifestyle choices, Freshman nursing students.

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Vinegar: Its History and Health Benefits

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Abstract

In the world of condiments, vinegars are one of the few acidic items. Vinegar is typically made of 4-6% acetic acid in water. Fruits and other high-carb foods contain glucose, which gets acetified and fermented to make vinegar. This is a two-step bioprocess in which the yeast first turns sugar into ethanol, which is subsequently oxidized in an aerobic environment to produce acetic acid. Vinegar has been used historically to treat a wide range of ailments, such as burns, rashes, and stomachaches. Different raw materials are used to ferment different kinds of vinegar. Numerous recent studies have demonstrated that consuming vinegar improves human health. It has many physiological benefits including its ability to control blood sugar, regulate cholesterol, aid in weight loss, and even fight cancer. The main component of vinegar's capacity to control blood sugar, regulate lipid metabolism, and promote weight loss is acetic acid. It is believed that eating meals high in vinegar regularly is essential for managing and avoiding several diseases linked to lifestyle choices, such as diabetes, obesity, and cancer. These bioactive chemicals in vinegar are assumed to be responsible for the health effects of vinegar. The review aims to cover previous knowledge and health benefits regarding vinegar.

Keywords

Vinegar, Health, Obesity, Diabetes, Injury.

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Development of Walnut-Flax Brittle: Influence of Sweeteners on Nutritional Value and Health Benefits

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Abstract

Walnut (Juglans regia) and flax (Linum usitatissimum) are highly nutritious seeds known for their health benefits, particularly due to their rich fatty acid profiles. They are abundant in proteins, polyunsaturated fatty acids (PUFA), omega-3 and omega-6 fatty acids, which contribute to improved cardiovascular health and cognitive development. This study aimed to develop a nutrient-dense walnut-flax brittle using different sweetener. The objectives included optimizing the formulation for taste and nutritional value, especially focusing on the fatty acid composition. Sensory evaluation was performed using a 9-point hedonic scale to assess the acceptability of the walnut-flax brittle in terms of appearance, taste, texture, and overall acceptability. Participants rated the product from "dislike extremely" (1) to "like extremely" (9), and the most preferred sweetener was identified based on these evaluations. Proximate analysis was conducted to determine the moisture, protein, fat, ash, and fiber content following standard methods (AOAC). The fatty acid profile was analyzed using gas chromatography to quantify the levels of essential fatty acids such as omega-3 (alpha-linolenic acid) and omega-6 (linoleic acid), along with monounsaturated and saturated fats. The results from the study demonstrated that the walnut-flax brittle developed using palm jaggery contained the highest nutrient density, including protein (5.3±0.2), fat (16.3±0.4), carbohydrates (28.5±1.3), and ash content (0.3±0.2), compared to those made with brown sugar and jiggery along with highest levels of essential fatty acids, such as eicosenoic acid, linoleic acid, and alpha-linolenic acid, offering potential health benefits for both children and adults. Therefore this study reinforces that the inclusion of walnuts and flax seeds significantly enhances the essential fatty acid profile of the brittle, making it a valuable functional food for cardiovascular health and cognitive development.

Keywords

Flax, Walnut, Brittle, Fatty acid Profile, Functional food.

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Prediction of 10 - Year Cardiovascular Disease Risk among Nicobarese Tribes of Andaman and Nicobar Islands

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Abstract

Background: WHO data on increased CVDs in India is estimated to be one of the greatest of any country in the world. The Nicobarese tribes of India are indigenous tribes, habited in difficult to reach, rural, and remote Islands in the Bay of Bengal.

Methods: A community-based cross-sectional study was conducted among 365 Nicobar Tribes using WHO HEARTS risk prediction charts to study the distribution and determinants of NCD risk factors and to predict the 10-year CVD risk.

Results: 66.8% were obese, 24.4% were smokers. Smokeless tobacco use was prevalent among 74.8 and 62.5% reported alcohol consumption. Based on the non-laboratory component of the CVD risk assessment chart, 83 (22.7%) had a risk <5%, 132 (36.2%) had a risk of 5-9%, 114 (31.2%) had a risk of 10-19%, 34 (9.3%) had a risk of 20-29%. Illiteracy (aRR: 2.24, 95% CI: 1.34 to 3.78, p=0.002) and lower vegetable consumption (aRR: 1.71, 95% CI: 1.04 to 2.81, p=0.035) were associated with a CVD risk score of 10-19%. Employment and lower vegetable consumption were associated with a higher risk score of ≥20% (aRR: 2.59, 95% CI: 1.14 to 6.01, p=0.024)

Conclusions: The prediction of 10-year CVD risk levels shows moderate to high CVD risk levels are higher among Nicobarese tribes than reported levels among general populations. Illiteracy, lower level of educational status, consumption of alcohol, and low consumption of vegetables in the diet are the main predictors of such moderate to high CVD risk levels.

Keywords

Prediction, CVD, Risk, Nicobarese, Tribal, Hypertension, HEARTS.

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Kombucha and its Medicinal Benefits

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Abstract

Kombucha is a traditional beverage created by combining a symbiotic culture of bacteria and yeast with sweet medium and aerobic conditions for many days to ferment tea (Camellia sinensis (L.) Kuntze). After initially becoming widely available in China, kombucha is a fermented beverage that has gained popularity in recent years. It is traditionally brewed with black or green tea [Camellia sinensis (L.) Kuntze]. Apart from tea, a variety of raw materials (such as fruit, vegetables, milk, coffee, soy, and herbs) have also been reported to be used for fermentation with kombucha consortium and potentially turned into kombucha beverages. These beverages are known to have positive medicinal benefits because they include a variety of bioactive substances with a wide range of pharmacological characteristics. Intake of kombucha has been associated with some health effects that might include; reducing cholesterol levels and blood pressure, slowing down cancerous growths, improved function of the liver, improves the immune system as well as gastrointestinal functions. This review aims to cover the medicinal benefits regarding kombucha.

Keywords

Kombucha, Medicinal, Tea, Traditionals.

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Assessment of Dietary Habits among Construction Workers

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Abstract

Construction workers are often engaged in physically demanding tasks that require adequate nutrition to maintain energy levels and overall health. Dietary habits among construction workers refer to the specific patterns, food choices, and nutritional practices related to the consumption of food and beverages by individuals employed in the construction industry. However, their dietary habits can be influenced by various factors, including work schedules, access to food, and nutritional knowledge. This study assesses the dietary habits of construction workers, a group often exposed to challenging work environments that can impact their nutritional choices. The dietary habits of construction workers, a group known for their demanding physical labour and irregular work schedules. Understanding these habits is critical for identifying potential nutritional deficiencies and health risks within this population. The research employs a mixed-methods approach, utilizing surveys and interviews to gather data on meal frequency, food choices, and overall nutritional knowledge. Key factors influencing dietary practices, such as access to healthy food options, time constraints, and cultural influences, are also explored. The findings aim to highlight the dietary challenges faced by construction workers and inform the development of targeted interventions and educational programs. By addressing these issues, the study seeks to promote healthier eating habits, improve worker health, and enhance overall productivity within the construction industry. In conclusion, the dietary habits of construction workers is essential for promoting their overall health, productivity and the unique challenges they face and implementing effective interventions, we can help improve their nutritional well-being and long-term health outcomes.

Keywords

Construction workers, Dietary habits, Health, Food choices, Nutritional deficiencies, Nutrition, Nutritional knowledge, Meal.

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Comprehensive Evaluation of the Integrated Pharmaceutical Management System: Strategic Analysis of Key Components and Influential Variables

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Abstract

This study provides a strategic evaluation of the integrated pharmaceutical management system, focusing on the systematic analysis of key components and influential variables that shape its efficiency, timely access to pharmaceuticals, quality assurance, substitution optimization, and cost containment. Recognized as a fundamental pillar of healthcare systems, an integrated pharmaceutical management framework is instrumental in ensuring the sustainability of supply chains, optimizing resource allocation, enhancing equitable drug distribution, and mitigating inefficiencies and cost escalations. The research delves into critical dimensions, including advanced technologies, macro-level health policies, financial and human resource management, information systems infrastructure, and compliance with regulatory standards and protocols, with the aim of identifying systemic gaps and proposing robust management solutions.

Key operational and strategic elements such as research and development, domestic production capacity, import mechanisms, tariff regulations, and raw material procurement are analyzed within a holistic framework to ensure continuity and resilience in pharmaceutical access. Employing the Analytic Hierarchy Process (AHP) model, the study systematically examines the interdependencies and prioritizations of influential variables. This model facilitates evidence-based decision-making by clarifying the dynamic relationships and critical importance of various system components. Findings underscore the imperative of transparent policy frameworks, optimal resource management, and enhanced public-private partnerships as pivotal drivers of system efficiency, cost-effectiveness, and quality assurance.

Furthermore, the research highlights the transformative role of insurance systems as a structural enabler, capable of reducing the financial burdens associated with drug procurement, while simultaneously improving access to essential pharmaceuticals and supporting sustainable operational models. Emphasis is placed on the elimination of monopolistic practices within supply chains, the reinforcement of research and development infrastructure, and the establishment of integrated, transparent, and responsive policy mechanisms. The proposed strategies advocate for synergy across key stakeholders—governments, pharmaceutical manufacturers, importers, and insurance entities—to foster a resilient and high-performing pharmaceutical management ecosystem. These insights offer a strategic roadmap for policymakers and healthcare leaders to enhance the governance, functionality, and outcomes of integrated pharmaceutical management systems.

Keywords

Integrated pharmaceutical management system, Strategic management, Analytic Hierarchy Process (AHP), Efficiency, Timely access, Quality assurance, Transparency, Healthcare policy, Research and development, Insurance systems, Cost optimization, Supply chain resilience.

Comparative Analysis of Nutritional Value and Sensory Profiles of Raw and Cooked Migrogreens

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Abstract

Microgreens are young vegetable greens that are collected shortly after the emergence of the first true leaves, typically within 7 to 21 days following germination. Their increasing popularity in the food and wellness sectors can be attributed to their rich nutritional content, intense flavors, and vibrant colors. These diminutive greens often contain higher levels of vitamins, minerals, and antioxidants compared to their fully grown versions. While consuming microgreens in their raw state helps maintain their complete nutritional benefits, cooking methods may alter both the texture and nutritional profile of the food.

Aim: The purpose of this study is to investigate the impact of various cooking methods on nutrient retention and sensory characteristics of selected microgreen varieties.

Method: The microgreen samples were cooked using five different techniques: dehydration, deep frying, pressure cooking, shallow frying, and steaming. For proximates, nutrient analysis was conducted. A sensory evaluation was performed by a panel of semi - trained members who assessed the flavor, texture, taste and overall acceptability of each sample.

Results: The results indicate that raw microgreens generally possess superior nutritional value compared to cooked varieties, particularly concerning vitamin C and antioxidant capacity. Sensory evaluation results suggest that raw microgreens are also more favorable in terms of flavor, aroma, and overall acceptability. Cooking methods can enhance texture but may lead to a decline in nutrient retention and sensory appeal. These findings highlight the importance of consumption methods in maximizing the health benefits and enjoyment of microgreens

Conclusion: These findings provide valuable insights for consumers and culinary professionals seeking to maximize the health benefits and palatability of microgreens.

Keywords

Microgreens, flavor, nutritional value, cooking techniques, sensory appeal, culinary.

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